

### **Amendments to the Claims:**

This listing of claims will replace all prior versions, and listings, of claims in the application:

### **Listing of Claims:**

1. (Previously Presented) An apparatus for measuring surface topography of a surface comprising:

a linearly polarized light source that generates a light beam;

optics that focus the light beam on a surface to be measured such that a normally incident beam deflection is provided, the optics including polarization optics such that the incident beam has a first polarization and a reflected beam from the surface has a second polarization different from the first polarization, the optics including: a half-wave plate that receives the light beam from the linearly polarized light source; a long working distance microscope objective positioned to receive the light beam as an input from the half-wave plate and output a converging light beam; and a polarizing beam splitter positioned to receive as an input the output of the long working distance microscope objective and produce as an output a light beam with the first polarization; and

a position sensitive detector positioned to detect the reflected beam.

2-4. (Canceled)

5. (Previously Presented) The apparatus of claim 1, wherein the optics further include a quarter-wave plate positioned to receive as an input the light beam with the first polarization and output a beam in a direction normally incident to the surface, the reflected beam from the surface being reflected by the quarter-wave plate towards the position sensitive detector with the second polarization.

6. (Original) The apparatus of claim 5, wherein the first polarization is p-polarization and the second polarization is s-polarization.

7. (Previously Presented) The apparatus of claim 6, wherein the polarizing beam splitter includes a  $45^\circ$  reflective surface positioned to reflect the beam reflected from the surface in a direction perpendicular to the direction normally incident to the surface.

8. (Previously Presented) The apparatus of claim 1, wherein the long working microscope objective outputs the converging light beam in a direction perpendicular to a normally incident direction to the surface.

9. (Original) The apparatus of claim 8, wherein the optics further include a polarizing beam splitter having a  $45^\circ$  reflective surface positioned to reflect the converging light beam from the long working microscope objective towards the surface in a normally incident direction to the surface.

10. (Previously Presented) The apparatus of claim 9, wherein the optics further include a quarter-wave plate positioned to receive as an input the light beam with the first polarization from the polarizing beam splitter and output a beam that is normally incident of the surface, with a reflected beam from the surface having the second polarization and directed by the quarter-wave plate through the polarizing beam splitter in a direction normal to the surface towards the position sensitive detector.

11. (Currently Amended) A method of measuring the topography of a surface, comprising ~~the steps of:~~

directing a beam of light of a first polarization towards a surface to be measured, the beam of light being directed at the surface in a direction normally incident to the surface, with a reflected beam from the surface also being normally incident to the surface, ~~with a reflected beam from the surface also being normally incident to the surface,~~ the directing including generating a collimated beam of linearly polarized light and passing the collimated beam through a half-wave plate; converging the collimated beam with a long working distance microscope objective to output a converging beam; and transmitting the converging beam through a polarizing beam splitter in a direction normally incident to the surface;

changing the polarization of the reflected beam to a second polarization different from the first polarization;

directing the reflected beam with the second polarization to a position sensitive detector; and

determining the topography from measurements taken at the position sensitive detector.

12-14. (Canceled)

15. (Currently Amended) The method of claim 11, wherein the ~~step of~~ changing the polarization includes passing the reflected beam through a quarter-wave plate that changes the polarization of the reflected beam to the second polarization from the first polarization.

16. (Currently Amended) The method of claim 15, wherein the ~~step of~~ directing the reflected beam includes reflecting the reflected beam perpendicularly at the polarizing beam splitter towards the position sensitive detector.

17. (Currently Amended) The method of claim 11, wherein the ~~step of~~ directing a beam of light includes directing the converging beam in a direction perpendicular to a normally incident direction to the surface towards a reflective surface of a polarizing beam splitter that reflects the converging beam towards the surface in a direction normally incident to the surface.

18. (Currently Amended) The method of claim 17, wherein the ~~step of~~ directing

the reflected beam includes transmitting the reflected beam through the polarizing beam splitter in a normal direction to the surface towards the position sensitive detector.

19-20. (Canceled)

21. (Previously Presented) An apparatus for measuring surface topography of a surface comprising:

a linearly polarized light source that generates a light beam;  
optics that focus the light beam on a surface to be measured such that a normally incident beam deflection is provided, the optics including polarization optics such that the incident beam has a first polarization and a reflected beam from the surface has a second polarization different from the first polarization, the optics including: a half-wave plate that receives the light beam from the linearly polarized light source; a long working distance microscope objective positioned to receive the light beam as an input from the half-wave plate and output a converging light beam; and a polarizing beam splitter positioned to receive as an input the output of the long working distance microscope objective and produce as an output a light beam with the first polarization; and

a position sensitive detector positioned to detect the reflected beam;  
wherein the optics further include the polarizing beam splitter having a 45° reflective surface positioned to reflect the converging light beam from the long

working microscope objective towards the surface in a normally incident direction to the surface.

22. (Previously Presented) The apparatus of claim 21, wherein the optics further include a quarter-wave plate positioned to receive as an input the light beam with the first polarization from the polarizing beam splitter and output a beam that is normally incident of the surface, with a reflected beam from the surface having the second polarization and directed by the quarter-wave plate through the polarizing beam splitter in a direction normal to the surface towards the position sensitive detector.